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FIGURE 1

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200

FIGURE 2

Bandgap
Reference
Circuit
210

RTrim_0   RTrim_1

V_{BG}

+   −

DTrim_2

Load Circuit
231

Load Circuit
232

N241   220   N242   N243

Vout

+   −

DTrim (0:3)

N344

333

bit 0

S0

RA   RB

bit 1

S1

RA   RB

bit 2

S2

bit 3   S3

RA   RB

Portion of
Load Circuit
(Resistor DAC)

N345
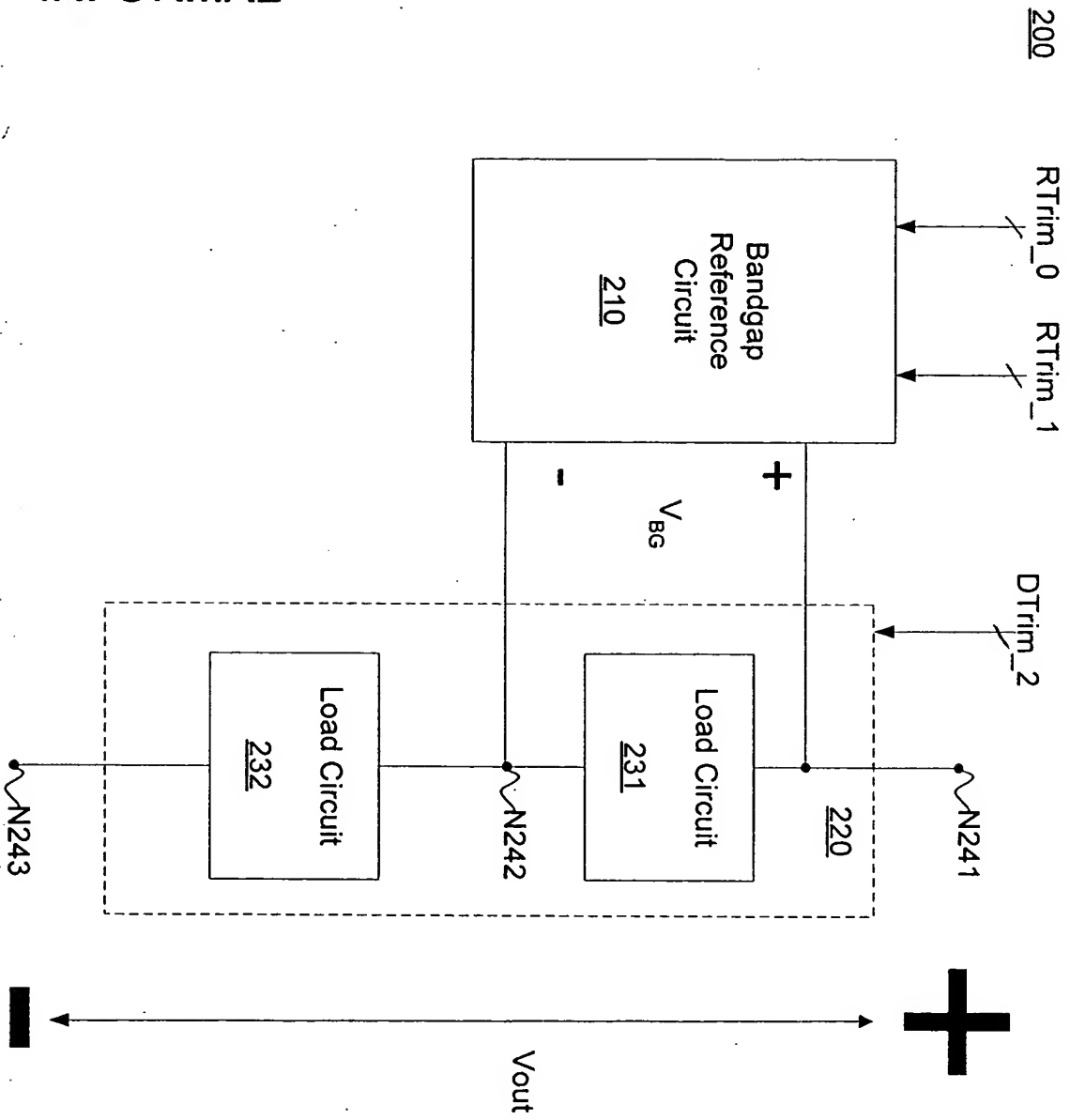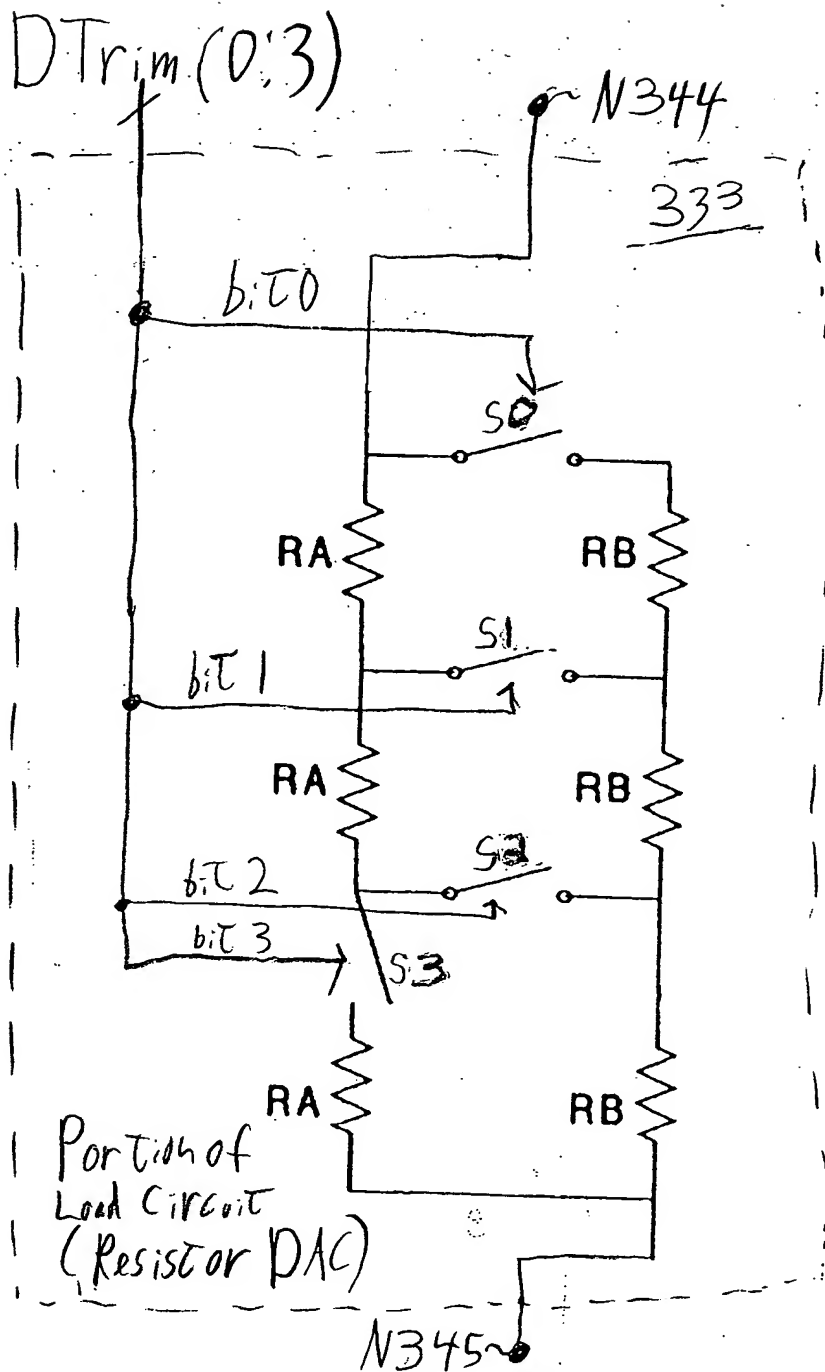
FIGURE 3

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FIGURE 4

Zeroth-Order Trim Circuit 450

RTrim_0

First-Order Trim Circuit 451

RTrim_1

A1

R3

R1

R2

R0

M1

Q1

Q2

410

V_{BG}

N441

N442

```
                    ┌──────────┐
                    │  Start   │
                    └────┬─────┘
                         │
                         ▼
               ┌──────────────────┐
               │  Apply bandgap   │
               │ reference voltage│
               │  across part of  │
               │ impedance divider│
               │      circuit     │
               │       560        │
               └────────┬─────────┘
                        │
                        ▼◄──────────────────────┐
               ┌──────────────────┐             │
               │   Select DTrim   │             │
               │      signal      │             │
               │       562        │             │
               └────────┬─────────┘             │
                        │                       │
                        ▼                       │
               ┌──────────────────┐             │
               │ Apply DTrim signal│            │
               │ to resistor DAC to│            │
               │ close corresponding│           │
               │      switch       │            │
               │       564         │            │
               └────────┬─────────┘             │
                        │                       │
                        ▼                       │
               ┌──────────────────┐             │
               │  Sense resulting │             │
               │  output voltage  │             │
               │       565        │             │
               └────────┬─────────┘             │
                        │                       │
                        ▼                       │
                   ╱─────────╲                  │
                  ╱ Calibrated ╲     N           │
                 ◄ successfully? ├───────────────┘
                  ╲    566      ╱
                   ╲─────────╱
                        │ Y
                        ▼
                  ┌──────────┐
                  │  Return  │
                  └──────────┘
```
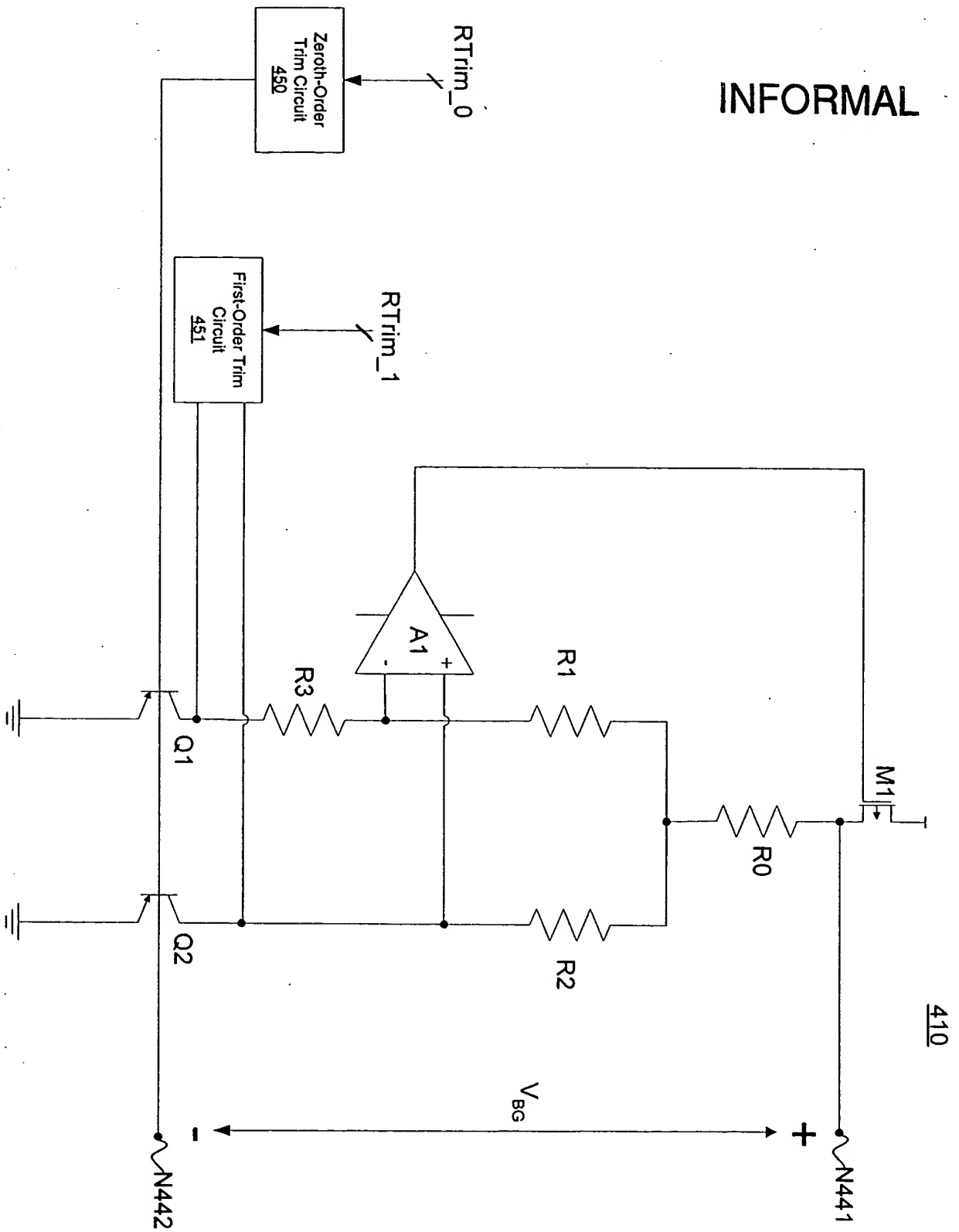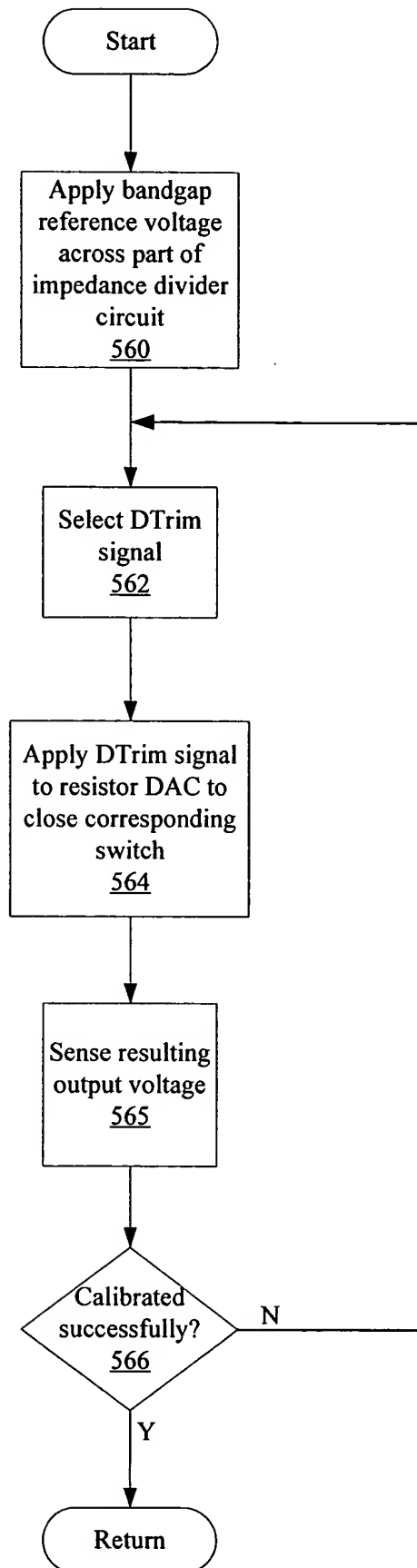
500

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CALIBRATION

FIGURE 5